Amendments to the Claims

This listing of claims will replace all prior version, listings, of claims in the specification:

We claim:

1.   (original) A method of making an algorithm for the prediction of the RNAi potency of a RNAi reagent comprising:

      a) determining experimentally the RNAi potency of a plurality of RNAi reagents comprising a sequence complementary to at least one target gene; and

      b) training an artificial neuronal net using said data set.

2.   (original) A method according to claim 1, wherein the RNAi potency is determined by measuring the amount of protein encoded by the target gene.

3.   (currently amended) A method according to ~~any of the previous claims~~ claim 1, wherein the RNAi potency is determined by a reporter gene assay.

4.   (currently amended) A method according to ~~any of the previous claims~~ claim 3, wherein the RNAi reagent is targeting the 3'-UTR of ~~the~~ a fusion-mRNA ~~encoding for the reporter protein~~ from the reporter gene assay.

5.   (currently amended) A method according to ~~any of the previous claims~~ claim3, wherein the data from different fusion-mRNA can be normalized.

6.   (currently amended) A method according to ~~any of the previous claims~~ claim 1, wherein the potency of at least 100 RNAi reagents, preferably at least 1000 RNAi reagents is determined.

7.   (currently amended) A method according to ~~any of the previous claims~~ claim 1, wherein the sequences of said RNAi reagents are randomly chosen.

8.   (currently amended) A method according to ~~any of the previous claims~~ claim 1 wherein the sequences of said RNAi reagents have a region between 15 and 30 nucleotides long with sufficient complementary to bind to target mRNA.

9.   (currently amended) A method according to ~~any of the previous claims~~ claim 1 wherein the complementary region of the RNAi reagent contains one or several mismatches to the corresponding region of the target gene.

10.   (currently amended) A method according to ~~any of the previous claims~~ claim 1 wherein the RNAi reagent is a siRNA.

11.   (currently amended) A method according to ~~any of the previous claims~~ claim 1 wherein the RNAi reagent is a shRNA.

12.   (currently amended) A method according to ~~any of the previous claims~~ claim 1 wherein the RNAi reagent is a miRNA.

13.   (currently amended) An algorithm obtained by a the method ~~according to any of the previous claims~~ of claim 1.

14.   (original) A computer readable storage medium comprising an algorithm according to Claim 13.

15.   (original) A computer system comprising an algorithm according to Claim 13 and computer hardware.

16.   (original) A method for predicting the RNAi potency of a RNAi reagent comprising:

a) providing a plurality of RNAi reagent sequences comprising a region complementary to a given target gene;

b) running the trained algorithm according to Claim 13 to said RNAi reagent sequences using a neuronal network; and

c) selecting the RNAi reagent sequence(s) which are predicted to be potent.

17.   (original) A method for inhibiting the expression of a given target gene, comprising:

a) providing a plurality of RNAi reagent sequences comprising a region complementary to a given target gene;

b) running the trained algorithm according to Claim 13 to said RNAi reagent sequences using a neuronal network;

c) selecting the RNAi reagent sequence(s) which are predicted to be potent;

d) synthesizing the RNAi reagent(s) selected in c); and

e) exposing cells expressing the target gene with the RNAi reagent(s) of d).

18.   (currently amended) A method according to Claim 16 ~~or 17~~, wherein the RNAi reagents that are selected in c) are above a given threshold value.